2020

Minimizing Antipsychotic Medication Side Effects in Adults Diagnosed with Mental Illness through Psychoeducation: An Evidence-Based Approach

Sarah A. Yao
Eastern Kentucky University, sarah_yao@mymail.eku.edu

Minimizing Antipsychotic Medication Side Effects in Adults Diagnosed with Mental Illness through Psychoeducation: An Evidence-Based Approach

Submitted in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice at Eastern Kentucky University

By

Sarah Yao

Las Vegas, Nevada

2020

Minimizing Antipsychotic Medication Side Effects in Adults Diagnosed with Mental Illness through Psychoeducation: An Evidence Based Approach

By

Sarah Yao

DNP Project Chair	Date
DNP Project Team Member	Date
DNP Coordinator	Date
Eastern Kentucky University School of Nursing	Date

Abstract

Adherence to antipsychotic medication has demonstrated significant impact in decreasing symptom exacerbation among patients diagnosed with mental illness. Antipsychotic medications have several benefits including the management of psychotic and mood disorders; however, they could cause unwanted medication side effects with metabolic and cardiovascular risks. This issue is one of the commonly linked side effects resulting in nonadherence among mentally ill patients. The purpose of this project was to implement a psychoeducational intervention using the SIMPLE program to address metabolic and cardiovascular risks associated with antipsychotic medications among adult patients diagnosed with mental illness. A sample size of sixteen adult patients completed this project over a four-week period. There was a significant increase in mean healthy lifestyle change score on pre-HPLP II (M = 16.675, SD = ± 2.385) compared to post-test score; HPLP II (M = 21.104, SD = ± 2.287). The findings of this project supports that psychoeducation promotes healthy lifestyle changes among patients prescribed antipsychotic medications.

Keywords: psychoeducation, mental illness, antipsychotic medication, metabolic risks

Table of Contents

For additional information about this project, please contact Sarah Yao at sayao11@yahoo.com

Minimizing Antipsychotic Medication Side Effects in Adults Diagnosed with Mental Illness through Psychoeducation: An Evidence Based Approach

In contemporary societies, despite the tremendous strides made in the diagnosis and management of chronic mental health disorders such as schizophrenia and depression, a large section of this vulnerable population are not adherent to their treatment regimen (Owusu-Ansah et al., 2018). Most of the potential modifiable risk factors for non-adherence are patient-related such as poor insight into having a mental illness, substance abuse, lack of support system, as well as the patient's personal decision to stop taking medications (Sarath, Lokesh, Pramod, & Pavan, 2014). Another notable reason for nonadherence among a significant margin of patients diagnosed with mental illness is the metabolic and cardiovascular side effects of antipsychotic medications (Green, Janoff, Yarborough & Yarborough, 2014). Although multiple pharmacological interventions are available in managing symptoms, antipsychotic medications have proven to be very effective and is classified a cornerstone in managing the symptoms of psychoses, depression, and mood disorder (Annamalai, Kosir & Tek, 2017). Despite the immense benefits of antipsychotic medications in improving patient outcomes, antipsychotic-induced weight gain often ensues leading to cardiovascular and metabolic syndrome.

Background and Significance

In the United States (US) alone, nicotine dependence, substance use disorder, and obesity resulted in soaring healthcare costs as well as decreased life expectancy by 10-25 years among people diagnosed with psychotic disorders (Erickson et al., 2017). The American Hospital Association (AHA), noted that health disparities among vulnerable populations continue to result in poorer health outcomes and increased cost across the health system (AHA, 2019). The healthcare costs were estimated to be $11.5 billion in 2013 (Erickson et al., 2017) with a

projected spending of $280.5 billion by 2020 on behavioral health treatments alone (AHA, 2019).

The issue of antipsychotic induced weight gain transcends geographic boundaries thus suggesting a diagnosis of schizophrenia as an independent risk factor for diabetes among this patient population even in rural areas of sub-Saharan Africa (Owusu-Ansah et al., 2018). Mental illness frequently causes alteration in mood and thought process leading to poor and impulsive dietary choices and habits (Annamalai, Kosir & Tek, 2017). Many factors are reported to contribute to metabolic and cardiovascular side effects among patients diagnosed with schizophrenia, psychosis, or schizoaffective disorder who are prescribed antipsychotic medications such as sedentary lifestyle, poor dietary habits and genetic susceptibility (Dayabandra et al., 2017). Coupled with weight gain, antipsychotics medication can cause elevated lipid levels and contribute to metabolic syndrome (Dayabandra et al., 2017). Metabolic syndrome is a combination of abdominal obesity, high blood pressure, elevated triglycerides and hyperglycemia (Penninx & Lange, 2018).

Patients diagnosed with schizophrenia have double the risk of developing metabolic syndrome than people in the general population (Owusu-Ansah et al., 2018). Penninx and Lange (2018) added that second-generation antipsychotics particularly have been linked to excessive weight gain and risk of developing metabolic syndrome resulting in increased morality among mentally ill patients. National Institute for Health and Clinical Excellence (NICE) noted that increased metabolic and cardiovascular side effects are sometimes not a result of antipsychotic medication alone but also the result of a diet which is low in fruits and vegetables as well as a life with little to no physical activity (NICE, 2014). Psychoeducation empowers patients with

information and in recent times has developed as an aspect of treatment of schizophrenia with the goal of improving overall patient outcome (NICE, 2014).

Evidence-Based Intervention

Psychoeducation is a form of patient education/teaching which can be delivered in multiple formats such as in print or verbally (Bäuml et al., 2016). Unlike other forms of patient education offered to patients in print or verbal form, psychoeducation is an evidence-based form of patient-centered care where patients and their families are offered attainable and practical options towards improving overall wellbeing. The most important tenet of psychoeducation is to ensure the manner in which this information is provided is well understood by the intended audience. Bäuml et al. (2016) explained that psychoeducation often improves adherence and motivates patients to strive for optimal wellbeing. The studies discussed in this project report utilized psychoeducation as an evidence base practice (EBP) intervention with a patient-centered care focus. By selecting psychoeducation as an intervention, patients prescribed antipsychotic medications have the opportunity to understand and implement healthy lifestyle changes with the aim of managing antipsychotic medication-induced metabolic side effects.

Purpose Statement

The purpose of this EBP change project was to implement a psychoeducational intervention to address the problem of metabolic and cardiovascular risks associated with antipsychotic medications among adult patients diagnosed with mental illness. The goal of the project was to analyze the impact of group psychoeducational intervention on physical activity level and fruit/vegetable intake as well as evaluate the effectiveness of psychoeducation on healthy lifestyle changes among adult patients diagnosed with mental illness and prescribed antipsychotic medications.

Theoretical Framework

The theoretical framework which guided the implementation of this evidence-based project (EBP) was Kurt Lewin's Change theory which was introduced in the 1940s (Lewin, 1999; McEwen & Wills, 2014). This theory provided the foundation for effective implementation of change by an individual or an entire group of people (McEwen & Wills, 2014). In order for an individual with a new or currently existing diagnosis of mental illness to adhere to lifestyle changes through psychoeducation which has the potential to improve outcome, that person would need to go through a transformational change. This change process goes beyond the superficial alterations which are easily noticeable to address the mental and emotional need to attain wellness.

Lewin's Change theory is guided by three core concepts; driving forces, restraining forces and equilibrium (Lewin, 1999). Lewin explained that driving force assists/accelerates movement into the desired direction while the restraining force acts as an obstacle or stumbling block to the new change process. This usually causes tension and imbalance however when a state of equilibrium is reached both driving and restraining forces are equal resulting in no change. McEwen and Wills (2014) added that it is essential for opposing/restraining forces to be identified and eventually minimized so that the desired effect of change is achieved. Thus a patient's desire to attain optimal wellness acts as the driving force for medication/treatment adherence while the restraining force of antipsychotic-induced weight gain/obesity pulls the patient away from absolute compliance. Adapting the tenets of Lewin's Change theory through psychoeducation, patients were provided with the necessary tools needed to maneuver and master the art of adherence to prescribed antipsychotic medication regimen while managing the metabolic and cardiovascular medication side effects in a healthy manner.

Lewin utilized three major stages of change; (unfreezing, moving, and refreezing) to explain the complex processes an individual has to go through for lasting change to occur (Lewin, 1999). The first stage of change, unfreezing, helps the patient understand the need for change (White, 2014). The unfreezing stage is an important phase in the change process especially as it has the tendency to decrease resistance to change if the patient affected by this change is adequately educated about the need for change. During this phase, patients prescribed antipsychotic medications were educated on the positive impact of adherence to antipsychotic medication regimen as prescribed. A candid overview of the potential metabolic and cardiovascular side effects of antipsychotic medications were discussed with patients. Patient's current dietary habits as well as physical activity level were assessed. Effective communication was a necessity during this stage so that the patient who was affected by this change understood the rationale behind its initiation. After creating an awareness of the need for change during the unfreezing stage, White (2014) explained that the second stage, the moving stage, focuses on strengthening the environment in order for change to occur. This stage introduced or reinforced healthy lifestyle options which guided patients prescribed antipsychotic medications. The final stage of Lewin's change theory, the refreezing stage, became an opportunity to revisit results of the lifestyle change, discuss challenges encountered or still facing, areas requiring alterations as well as planning for the way forward (Manchester et al, 2014).

Lewin and Gold (1999) added that although any planned social change will have to consider multiple factors there is still the need to ensure that reinforcement of the new patterns are formally/informally instituted so that patients can conveniently reference in time of need. Diligently educating patients prescribed antipsychotic medications about the need for healthier lifestyle options through psychoeducation has the potential not only to move communities and

the nation closer towards wellness but could lead towards preserving lives and improving overall patient outcomes.

Literature Review

A literature search was conducted for this EBP project primarily through CINAHL, PubMed, Medline, and Cochrane Collaboration. The keywords used during the initial search included: metabolic side effects, antipsychotic-induced weight gain, and antipsychotics which yielded less than four relevant systematic review articles and five randomized controlled trials (RCTs). Other key words such as psychoeducation, lifestyle changes, obesity, diet, and atypical antipsychotics were included in the search criteria. The five studies chosen were all RCTs published within the past five years with similar underlying theme. The studies utilized psychoeducation and lifestyle changes as an intervention to manage/counteract the metabolic and cardiovascular side effects of antipsychotic medications.

Bersani et al. (2017) evaluated the clinical effectiveness of an educational intervention targeting lifestyle habits in patients with mood and psychotic disorders. This RCT utilized a double-blinded study design and adopted a theoretical framework based on a heuristic approach. A sample size N=32 adults ages 18-65 were recruited at the day hospital of the psychiatric department at University Hospital in Rome, Italy. Inclusion criteria for these participants were a diagnosis of major depressive disorder, schizophrenia, and bipolar disorder. The intervention group's sample size n=16 received specialized educational sessions on healthy lifestyle changes on diet, physical activity, and overall wellness while the control group's sample size n=16 received non-specific psychoeducation on medication management or discussed patient's clinical outcomes (Bersani et al., 2017). The variables in this study included psychoeducation, lifestyle habits, cardio-metabolic disturbances and individuals with psychiatric disorder. Three

measurement tools used in this study were the Pittsburgh Sleep Quality Index (PSQI), International Physical Activity Questionnaire (IPAQ), and Brief Psychiatric Rating Scale (BPRS). The PSQI is a group of 19-self-rated questions grouped into seven clinically derived domains of sleep difficulties and each of the seven domains is equally rated on a Likert scale of 0-3 to generate a global score of 0–21 where global PSQI score > 5 is indicative of poor sleep quality. The IPAQ is a self-report measure rating the number of minutes spent exercising per day in the previous week, and the intensity level of the exercise while the BPRS is an extensively-validated clinician-rated scale using a 7-point Likert scale. Analysis of the intervention group showed a significant positive change from baseline while scores of subjects in the control group did not change significantly over time. Level of significance and confidence interval (CI) were not stated. Findings for the study deduced decrease cardio metabolic disturbances related to psychoeducation. This study reinforced that psychoeducation decreased a patient's risk of other cardiovascular diseases through lifestyle changes which led to improvement in overall health status (Bersani et al., 2017).

Curtis et al. (2016) studied the effectiveness of a lifestyle and life skills intervention delivered within four weeks of antipsychotic medication initiation in attenuating weight gain in youth aged 14–25 years with first-episode psychosis. A motivational framework was used in this RCT with prospective-controlled design. Young people ages 14-25 (N=28) were randomly selected from two community-based first-episode psychosis (FEP) services with treatment with antipsychotic medication for less than four weeks prior to baseline assessment. The intervention group's sample size n=16 while the comparison group's sample size n=12. The intervention group received health coaching, dietetic support and supervised exercise prescription. The control group received standard care which involved individual mental health case management

with medical assessment of prescribed antipsychotic medication following standard clinical guidelines. Some of the dependent and independent variables included individualized lifestyle and life skill, and psychoeducation. Overall, subjects in the intervention group reported lower weight gain of 1.8kg compared to subjects in the control group who reported weight gain of 7.8kg. The study reported a moderate effect size with 95% CI. The outcome of the study portrayed decreased weight gain related to psychoeducation on individualized lifestyle and life skill. The authors reinforced that implementing effective lifestyle and life skills interventions from the initiation of treatment as part of routine care has the potential to result in improved patient outcome.

Erickson et al. (2017) studied the behavioral interventions for veterans with mental illness and antipsychotic medication-associated obesity. This RCT utilized a sample size of 121 adults mainly male veterans with some non-veteran women ages 18-70. Research activities took place in research offices near mental health clinics at the Greater Los Angeles Veterans Administration (VA) and VA Long Beach Healthcare Systems and the participants had to have a diagnosis of mental illness per DSM-IV, antipsychotic drug treatment, Body mass index (BMI) > 25, or weight > 7% on antipsychotic drugs. The major variables in this study were psychoeducation, behavioral intervention, and lifestyle balance. One of the measurement tools used was Self-Appraisal of Illness Questionnaire (SAIQ) which is a self-report instrument designed to assess attitude towards mental illness among people receiving psychiatric treatment. All clinical scores decreased over time; SAIQ showed a significant association with treatment effect on weight change with higher scores associated with larger weight loss. The study had a small effect size with 80% CI and reported decreased cardiovascular and metabolic disturbances related to behavioral interventions on antipsychotic medication-associated obesity.

Overall patient outcome would improve through routine education (oral/verbal and in written/printed literature) on the benefits of healthy lifestyle choices while taking antipsychotic medication.

Green, Janoff, Yarborough and Yarborough (2014) tested the acceptability/feasibility of the PREMIER/DASH Diet intervention among people taking antipsychotic medications as well as tested the hypothesis that the intervention was more effective than usual care in reducing weight. This RCT utilized motivational and behavioral change theories as its conceptual framework. A sample size of 121 adults older than the age of 21 were recruited from a large, not-for-profit, integrated health plan in the US. The BMI range for participants was 24 - 44.9 and had to be taking at least one antipsychotic medication at any consistent dose for a minimum of 30 days. The major variables in the study were lifestyle changes and psychoeducation with intervention and control participants completing study questionnaires at baseline and post-treatment. The measurement tools used in this study were Eating Habits Confidence Survey (EHSC), Exercise Confidence Questionnaire (ECQ), Social Support for Diet and Exercise Behaviors (SSDEB), and Wisconsin Quality of Life -Medication Adherence Items (W-QLI). The mean weight in the intervention group declined from 213.3 to 206.6 pounds, a mean reduction of 6.7 pounds (SD = 6.0). Level of significance and confidence interval (CI) were not stated. Although this study used a small sample size, the study was of a pilot nature, and the participants in the study were insured population and it would be premature to generalize the results to other populations or settings, this RCT yielded similar findings in a study that occurred within an 18-month timeframe which deduced that lifestyle and diet changed produced positive results in patients prescribed antipsychotic medications.

Kreyenbuhl et al. (2017) conducted a RCT of a computerized, patient-centered intervention aimed at educating veterans with serious mental illness about the metabolic side effects of antipsychotics and encouraging them to advocate for receipt of guideline-recommended side effect monitoring. The study used the patient-centered care framework with a sample size of 240 veterans ages 18-70 at two Veterans Affairs outpatient mental health clinics in the Mid-Atlantic region of the Unites States. In addition to the psychiatric diagnoses of participants, veterans with a diagnosis of posttraumatic stress disorder (PTSD) were included in the study as well as those prescribed one or more oral or injectable second generation antipsychotic. The independent and dependent variables in this study were educational program and lifestyle change. Responses were rated on a 5-point scale (0–4), with higher scores representing greater symptom severity. Psychiatric symptom severity over the past week was measured by the average score of the 24-item using Behavior and Symptom Identification Scale (BASIS-24). Level of significance and confidence interval (CI) were not stated. The study noted increased screening request from veterans for antipsychotic medication metabolic side effects related to psychotherapy. Findings from the study supported the fact that individuals with serious mental illness are interested in obtaining personalized information about their cardio-metabolic status.

Synthesis of the Literature

Although five RCTs were reviewed with a wide range of similarities in their proposed EBP intervention, they still possessed marked differences which were unique to each study. Erickson et al (2017); Green et al. (2014) and Kreyenbuhl et al. (2017) randomly selected large sample sizes between 121 and 240 participants ensuring generalization of their findings while Curtis et al. (2016) and Bersani et al. (2017) had smaller sample sizes of 28-32 participants.

Participants in all the studies were classified as adults between the ages of 18- 65/70 years except for the study by Curtis et al. (2016) which sampled youth between the ages of 14-25 especially since the focus of the study was on the youth population with FEP. The inclusion criteria of all the studies stressed on an underlying diagnosis of mental illness with diagnoses of schizophrenia, bipolar disorder, depression, and schizoaffective disorder however Kreyenbuhl et al. (2017) added an additional diagnosis of PTSD. Although an underlying inclusion criteria for participants in all the studies was receiving a prescription of antipsychotic medications and did not specify but assumed an oral form of antipsychotic, Kreyenbuhl et al. (2017) was the only study which specified that the antipsychotic medication had to be second-generation antipsychotic which could be administered orally or through a long-acting injectable. Kreyenbuhl et al. (2017) further narrowed down participants for their study with the aimed at ensuring that study findings could be adapted on a broad scale in that second-generation or atypical antipsychotics have more notoriety for causing metabolic/cardiovascular side effects compared to typical antipsychotics which produce more extrapyramidal symptoms (EPS).

All five studies used for this literature review adopted the same EBP intervention which stressed on the effect of psychoeducation on lifestyle changes among participants to decease metabolic and cardiovascular side effects of antipsychotic medications. Through psychoeducation on lifestyle changes, Bersani et al. (2017), Curtis et al. (2016), Green et al. (2014) and Erickson et al. (2017) reported participants experienced improved sleep habit, decreased weight/BMI, as well as increased physical activity/exercise however Kreyenbuhl et al. (2017) did not utilize direct psychoeducation on lifestyle changes. Participants in the study by Kreyenbuhl et al. (2017) were encouraged to request frequent laboratory screening for fasting blood glucose and lipid panel in order to detect any changes in metabolic function. Another

deviation of this study from all the other studies was that unlike the other four studies which reported decreased cardiovascular and metabolic risks related to psychoeducation, Kreyenbuhl et al. (2017) reported increased weight gain and metabolic risks in spite of frequent request for laboratory screenings. Increased knowledge on healthy lifestyle choices was however noted in all participants of the various studies.

Agency Description

Setting

The project implementation occurred in an outpatient behavioral health clinic in Las Vegas, Nevada in spring 2020. The clinic provides care to a large number of clients with diverse mental illness. The setting for this EBP project was a mental health clinic located in the Las Vegas Valley. The clinic serves clients over the age of six years to geriatric population. The common diagnoses managed at the clinic include bipolar disorder, depression, schizophrenia, substance abuse, posttraumatic stress disorder, attention deficit hyperactive disorder and anxiety disorder.

All clients served at the clinic have some form of private, state or federal-funded health insurance while others are private pay clients. Some of the clients are homeless residing at Catholic Charities or the Salvation Army who have health insurance coverage. The clinic is conveniently located on the public transportation route with primary care outpatient clinics as well as other healthcare facilities within close proximity. The setting was selected for implementation of the project because of patients' subjective reports and objective assessment of antipsychotic induced medication side effects.

Target population

Participants in this EBP change project were English-speaking adult patients over the age of 18 diagnosed with mental illness and prescribed at least one antipsychotic medication. Participants were welcomed from all ethnic backgrounds with no gender or religious preference.

Congruence of project to agency's mission, goals, and strategic plan

Metabolic and cardiovascular risks associated with antipsychotic medication raises concern among patients and healthcare providers. Melnyk and Fineout-Overholt (2015) highlighted that internal evidence such as patient's clinical status/circumstances, patient's preferences, and outcomes of quality improvement projects should be considered during clinical decision making. For this project, in addition to patients' subjective reports of weight gain and exacerbation of underlying disease processes related to prescribed antipsychotic medication, patient's current dietary habits, as well as physical activity level were analyzed prior to delivery of psychoeducational intervention. This internally generated data was compared with national and global statistics of the problem of antipsychotic induced metabolic/cardiovascular risks and its impact on society as a whole.

Stakeholders

The interprofessional team at the practice change site included psychiatrists, doctoral prepared nurse practitioners, medical assistants, an office manager, information technology (IT) personnel as well as accounting/billing department. Team members participated in this project according to their scope of practice and job description. The psychiatrists and other nurse practitioners referred interested patients prescribed antipsychotic medications to the Principal Investigator (PI) who was responsible for providing psychoeducation. Scheduling of participants for this project was the responsibility of the medical assistants. The preceptor for this project served as a resource for the PI while Information Technology (IT) personnel assisted in

retrieving a list of past and current antipsychotic medication record from the electronic medical records (EMR) as needed. Project participants constituted an important group of this project's stakeholders whose understanding and implementation of the psychoeducational intervention was evaluated at the end of the entire project.

Project Design

This study utilized a pretest-posttest design. A weekly log tracking daily fruit and vegetable intake as well as minutes of physical activity was collected at the start of this educational intervention and throughout the four-week session. In week one of the group sessions, data collected from HPLP II acted as baseline assessment. At the end of the 4-week psychoeducational session, HPLP II was collected again to analyze whether participants gained or adapted healthy lifestyle changes based on psychoeducation received. Data was collected by the PI who was solely responsible for providing psychoeducation to participants during the project implementation phase. The project utilized mixed data collection methods which included questionnaire and anthropometric data. Data from the HPLP II was collected from participants through a questionnaire while the data collection form was used by participants on the first and last day of the psychoeducation session.

Methods

Evidence-Based Intervention: SIMPLE Program

The psychoeducational intervention which was used for this evidence-base practice (EBP) project is the *Simplified Intervention to Modify Physical activity, Lifestyle, and Eating behavior* (SIMPLE). SIMPLE is originally a 16-week lifestyle program focused on physical activity and nutritional education which provided weight loss support as well as teaching on healthy eating habits (Jean-Baptiste et al., 2007). This intervention was tailored within a four-

week timeframe for participants to achieve maximum benefit. The program author provided permission for changes to be made to the length of the program. The educational program is independent of prior educational level, socioeconomic status as well as baseline cognition and trains patients diagnosed with mental illness and prescribed antipsychotic medication how to read food labels, prepare meals and practice portion control manage the metabolic medication side effects (Jean-Baptiste et al, 2007). Written permission to use this educational tool was sought and approved by Dr. Cent Tek with the stipulation to provide due reference to this project. A resource manual describing this intervention as well as handouts for participants were available for free downloads from the internet at no cost.

Implementation Framework

The selected model for the EBP project was the Model for Evidence-Based Practice. The Model for Evidence Based Practice, a revised version of the model by Rosswurm and Larrabee integrated the principles of quality improvement, utilization of team work tools and evidence-based translation to promote practice change (Larrabee, 2009). This EBP change model was preferred because offered an in-depth, robust six-step process that guided practice change project implementation. This model assessed the need for planned change within the practice site, located the best evidence, critically analyzed the evidence, designed a practice change, implemented and evaluated change in practice as well as integrated and maintained change in practice (Larrabee, 2009). The project was categorized into four main stages which included development and analysis of the intervention, an assessment of the practice site, implementation of the psychoeducational intervention and evaluation of the effectiveness of the intervention.

Procedures

IRB Submission Process

An expedited review application for Internal Review Board (IRB) approval was obtained from Eastern Kentucky University (EKU) before the beginning of this project. After receiving approval from EKU's IRB, patients were recruited by referral from other prescribers at the clinical site as well as through an open invitation process.

Recruitment

Following IRB approval of the project, participants were recruited for this project through a cover letter offered to patients upon clinic check-in. Adult patients who were English-speaking and prescribed antipsychotic medications were provided with a cover letter as they waited in the lobby for their scheduled appointment. The cover letter included an overview of the project and patients were directed to the front desk who were interested in the study or met criteria. A meeting with the PI was scheduled to discuss details of this project.

Measures and Instruments

Health-Promoting Lifestyle Profile II (HPLP II). The instrument which was used to measure the effectiveness of SIMPLE as an effective psychoeducational tool among project participants was the Health-Promoting Lifestyle Profile II (HPLP II). HPLP II was originally designed by Walker, Sechrist, and Pender in 1987 and later revised in subsequent years. This measurement tool is a 52-item utilizing a four-point response scale to assess the frequency of self-reported health-promoting behaviors (Walker et al., 1987). The 52-items in this tool are grouped into six subscales in the domain of stress management, interpersonal relations, physical activity, nutrition, health responsibility and spiritual growth (Walker et al., 1987).

The four-point response scale which can be self-administered is itemized as; never, sometimes, often, and routinely and is tallied by calculating the mean of all 52 items (Walker & Hill-Polerecky, 2011). Walker and Hill-Polerecky (2011) added that in order to retain the metric

of item responses and ensure meaningful comparison scores across subscales, the use of means rather than the total of scale items is preferred. The higher the score, the greater the improvement. Walker and Hill-Polerecky (2011) calculated the test-retest reliability of the HPLP II as 0.892 after a three-week interval. They also reported the internal consistency as Cronbach's alpha 0.943, while the subscales range from 0.793-0.872. Walker and Hill-Polerecky (2011), performed several validity measures which was confirmed by factor analysis. These analyses confirmed the six-dimensional structure of HPLP II which was also supported by convergence with the Personal Lifestyle Questionnaire ($r = 0.678$) as well as a nonsignificant correlation with social desirability. The HPLP II has significant criterion validity with concurrent measures of perceived health status and quality of life ($r = 0.269$-0.491). A written request for permission to use this measurement tool was sent to Dr. Sechrist and Dr. Pender and permission was granted. In addition to the HPLP II questionnaire, other data collected included demographics on gender, age, current dietary and exercise habits.

Data collection form. During this project, a data collection form was provided to participants on the first and last day of the psychoeducational session. The form collected information on gender and age of participants as well as list of antipsychotic medications. Participants also completed a weekly log which tracked their daily fruit and vegetable intake as well as minutes of physical activity.

Program Evaluation Form. A post-psychoeducational intervention evaluation form was completed by participants on the last day of the group sessions. Participants evaluated the psychoeducational sessions and whether they adopted healthy lifestyle changes due to the knowledge gained from the SIMPLE program.

Implementation

The psychoeducational sessions were advertised with a recruitment flyer positioned at the check-in window of the outpatient clinic. The project consisted of group psychoeducational sessions held on Tuesday and Thursday evenings for 30-45 minutes. The Tuesday sessions were identical to the sessions on Thursday which provided participants flexibility in group attendance. The sessions were held over a 4-week period and each participant was expected to participate in four out of the eight sessions offered. During the first session, participants required an extra 30 minutes to sign informed consent and fill out demographic forms. The HPLP II was administered to participants prior to beginning the first psychoeducation session as well as during the final psychoeducational session.

During the first week, participants were educated on the benefits of antipsychotic medications and provided an overview of the metabolic and cardiovascular side effects of this class of medication. The second week's psychoeducational group session focused on realistic dietary changes where participants were taught how to read food labels, meal planning, keep food journals, understand portion control as well as provided budget friendly food shopping tips. The third week of the group sessions addressed physical activity and highlighted tips on how to increase physical activity and have fun. In week four which was the final week of the group sessions, participants were provided tips on how to control hunger and deal with cravings. Ideas

on how to identify personal support system was discussed and the weekly sessions were summarized.

Data Analysis

Data analyses was conducted using IBM SPSS® software version 25. Two tables of paired t-Tests were computed to compare pre and post test results. Indicators for metabolic and cardiovascular risk factors, dietary habits, and physical activity level as well as responses to HPLP II pre and post psychoeducational intervention was measured. Pre and post HPLP II questionnaire scores was analyzed using paired t-test to determine the level of significance. Paired t-test for all the six subscales was calculated individually to determine whether any significant change existed. Using a paired sample t-test, pre and post data on daily consumption of fruits/vegetables as well as physical activity level was analyzed for significance.

Results

A total of 16 participants completed the pre and post-test assessment. There were 7 females and 9 male participants within the age range of 23 to 60 years of age; with a mean age of 43. (Table 1).

Table 1

Demographic Characteristics of Participants (N = 16)

Characteristic	n	percentage
Male	9	56.2
Female	7	43.8
Age (M)	43	

Health Promotion Lifestyle Profile II (HPLP II)

Participants' responses on the HPLP II before and after the psychoeducational intervention were analyzed using paired-t tests. Results of the paired t-test are presented in Table 2 which compared the pre and post intervention assessment of the HPLP II subscales as well as a paired sample t-test for the overall HPLP II. There was significant increase in pre-test score for HPLP II (M = 16.675, SD = ± 2.385) compared to post-test score for HPLP II (M = 21.104, SD = ± 2.287). The overall mean difference was 4.729 with a 95% confidence interval (CI) as well as Cohen's d of (1.66) which indicated a Large effect size (Table 2).

Table 2

Paired Samples t-test for the Total and Subscales of Health-Promoting Lifestyle Profile II

HPLP II Scale	Mean	SD	Mean difference	SD	t	df	p
Pre-HPLP II (overall)	16.675	2.385	4.729	2.841	16.308	95	< .001
Post HPLP II (overall)	21.104	2.287					
Pre-Stress Management	16.563	1.896	4.125	1.408	11.716	15	<. 001
Post-Stress Management	20.688	1.448					
Pre-Nutrition	16.75	2.745	4.5	3.54	5.084	15	< . 001
Post-Nutrition	21.25	2.408					

Pre-Interpersonal Relationship	16.125	2.125	4.25	1.238	13.729	15	< .001
Post-Interpersonal Relationship	20.375	2.391					
Pre-Physical Activity	16.875	3.612	4.625	5.227	3.54	15	.0015
Post-Physical Activity	21.5	3.183					
Pre-Health Responsibility	16.188	1.721	-5.5	1.673	-13.148	15	< . 001
Post-Health Responsibility	21.688	1.621					
Pre-Spiritual Growth	15.75	1.844	5.375	1.784	12.05	15	< . 001
Post-Spiritual Growth	21.125	2.336					

Physical activity. The results depict an increase in amount of time engaged in physical activity among the 16 participants who completed the project. The mean physical activity minutes for the 16 participants at the start of the project was 48.125 minutes, and the mean at the end of the project was 67.5 minutes. Paired sample t-test for comparing time spent in physical activity before and after the intervention was statistically significant p = .0033 (Table 3).

Table 3

Paired Samples t-Test Results for Physical Activity Reported for Project Duration

HPLP Scale	Group Means	SD	Mean Difference	SD	t	df	p
Pre-Physical Activity	48.125	32.958	19.375	24.622	3.148	15	.0033*

Post-Physical Activity	67.5	23.944

Note. * significant p value.

Fruits and vegetables intake. The project's results showed that there was as increase in fruits/vegetables intake among the 16 participants who completed the project. The mean fruits/vegetable intake for the 16 participants at the start of the project was 1.047 cups, and the mean at the end of the project was 1.656 cups. Paired sample t-test for comparing fruits/vegetables intake before and after the intervention was statistically significant $p < .001$ (Table 4).

Table 4

Paired Samples t-Test Results for Fruits/Vegetables Intake Reported for Project Duration

HPLP Scale	Group Means	SD	Mean Difference	SD	t	df	p
Pre-Fruits/Vegetable Intake	1.047	0.621	0.609	0.612	3.982	15	< .001*
Post-Fruits/Vegetable Intake	1.656	0.612					

Note. * significant p value.

Program evaluation. A post-psychoeducational intervention evaluation form was completed by all sixteen participants on the last day of the group sessions. All participants (100%), reported the sessions provided an overview of the antipsychotic medications and explained the metabolic and cardiovascular side effects of antipsychotic medication. All the participants (100%), reported the sessions provided tips on healthy dietary habits and ways on

how to increase physical activity. All participants (100%), reported the group sessions resulted in substantial healthy lifestyle changes through diet and exercise.

Discussion

Several RCTs (Bersani, 2017; Curtis, 2016; Erickson, 2017) and clinical research (Penninx, 2018) support the need to utilize healthy lifestyle changes and life skills through psychoeducation to mitigate the metabolic side effects of antipsychotic medications. The literature reviewed in this project highlighted the positive impact psychoeducation which emphasized increased physical activity as well as healthy dietary choices had on the overall wellbeing of patients prescribed antipsychotic medications (Bersani et al., 2017). The findings from this project are consistent with the literature. Participants reported improvement in the amount of time they were engaged in physical activity as well as increased their intake of fruits/vegetables over the four-week period of this project. Based on the outcome of this project, utilizing non-pharmacological interventions such as psychoeducation with an emphasis on behavioral and lifestyle modification through dietary changes and physical activity can increase awareness and encourage behavioral changes on ways to manage antipsychotic medication metabolic side effects.

Limitations

The project sample size (n=16) represented a small fraction of the target patient population which could have benefited from this project. The four-week timeframe for project implementation and evaluation was not adequate to assess the long term benefit of the psychoeducational program to participants. Participants' personal assessment of fruit/vegetable intake as well as physical activity level also posed a limitation to the project due to possible discrepancies in reporting. The community impact of the COVID 19 pandemic caused anxiety

among participants leading to two participants terminating their involvement in the project at the end due to underlying medical conditions which affected project sample size.

Implications

Clinical Practice

The EBP project focused on educating participants on practical ways to minimize antipsychotic medication side effect through psychoeducation. The intervention was successful in improving patient outcomes as evidenced by the post-intervention data and is aligned with the overwhelming support for psychoeducational intervention in already existing literature (Bersani et al., 2017; Curtis et al., 2016; Erickson et al., 2017). This four-week project although brief in time frame, suggested benefits for a longer duration of a similar project. The DNP-prepared nurse could thus play a leading role in identifying, implementing and sustaining facility wide changes which would improve the overall wellbeing among the vulnerable mentally ill patient population.

Policy

At the local, state and national levels, advocacy for legislations and programs which would improve health literacy through patient education especially among patient diagnosed with mental illness needs to be to be considered. Programs focused on psychoeducation explaining the need for treatment compliance and ways to minimize medication side effects among vulnerable populations could bridge the health disparity gap among patients diagnosed with mental illness. According to the American Association of Colleges of Nursing (AACN), one role of the DNP-prepared advance practice nurse is to become an innovative leader in the transformation of the current health care system (AACN, 2004). The DNP prepared nurse must

be prepared and ready to lead, collaborate and advocate with the goal of improving patient and healthcare outcomes.

Quality and Safety

A primary diagnosis of mental illness such as Major Depression, Bipolar Disorder, and Schizophrenia could contribute to an increased risk of premature death resulting in 2-3 times higher mortality rate among this vulnerable population (Pringsheim et al., 2017). According to the literature, cardiovascular conditions account for a portion of this elevated mortality rate (Curtis et al., 2016; Erickson et al., 2017) but the good news is that there are modifiable risk factors which could be used to mitigate these metabolic and cardiovascular conditions. Among the general population, management of cardiovascular conditions are challenging but it is significantly problematic among patients diagnosed with severe mental conditions.

In addition to psychoeducation on health lifestyle changes, healthcare providers are encouraged to routinely monitor patients at risk for metabolic and cardiovascular side effects originating from prescribed antipsychotic medications (Pringsheim et al., 2017). Adhering to evidence-based guidelines on appropriate screening protocol and antipsychotic safety monitoring would not only decrease antipsychotic medication side effects but eventually save lives ((Pringsheim et al., 2017).

Education

Implementation of EBP leads to quality care and best outcomes, reduces cost and disparity, empowers clinicians and increases role satisfaction (Melnyk & Fineout-Overholt, 2015). Continuity of seeking and implementing current best evidence is imperative to prevent outdated treatment that will lead to poor patient outcomes. The DNP-prepared nurse must continue to implement practice change projects, educate patients and caregivers, advocate policy

changes that sustains EBP change and embrace new evidence to combat non-adherence. It will be beneficial for future work to recognize the role of families/caregivers. Providing psychoeducation to the entire family/caregivers on the need to include healthy lifestyle changes in the lives of patients prescribed antipsychotic medications will be more effective than an individual session.

Sustainability

Long term strategies are needed in order to sustain a project change. Upon completion of this EBP change project, the PI and stakeholders at the implementation site are considering a number of approaches to sustain the positive changes that were achieved. These approaches include the addition of psychoeducational groups to treatment as usual for patients prescribed antipsychotic medications. Psychiatrists, APRNs, and Physician Assistants (PA) at the clinical site will recommend psychoeducational sessions to patients/caregivers, and front office staff have been assigned to compile names for the Licensed Clinical Social Workers (LCSW) who will develop group sessions involving prescribers as well. Participants who took part in the recently completed EBP change project will be given the opportunity to participate, with the goal of reinforcing what was previously learned.

Future Scholarship

Collaboration among a wide range of mental health providers is planned to engage a larger number of participants and to implement future projects in a larger area of the community. Poster presentations at professional organizations comprising mental health providers such as American Psychiatric Nurses Association (APNA) Nevada chapter will be utilized to accomplish this goal. Psychoeducational intervention must be added to treatment as usual for patients

prescribed antipsychotic medications. Patients are more likely to adhere to their treatment regimen if they have a better understanding of how to mitigate and manage unwanted medication side effects.

Conclusion

The consequences of antipsychotic induced medication cardiovascular and metabolic side effects are dire. Utilizing psychoeducation during treatment as usual can be an effective intervention in improving adherence to medications regimen as well as decreasing these unwanted medication side effects. Psychoeducational interventions are designed to impart knowledge on antipsychotic medication metabolic side effects and its management through lifestyle changes. The pre-test and post-test data analysis among participants before and after the project intervention reinforce that psychoeducation positively impacts lifestyle changes among patients prescribed antipsychotic medications. Implementing the tenets of this project at the practice site as well as other behavioral health sites could manage the metabolic and cardiovascular side effects from antipsychotic medications and eventually improve overall wellbeing for patients diagnosed with mental illness.

References

American Association of Colleges of Nursing. (2004). AACN position statement on the practice doctorate in nursing. Retrieved from https://www.aacnnursing.org/Portals/42/News/Position-Statements/DNP.pdf

American Hospital Association. (2019). Increasing access to behavioral health care advances value for patients, providers and communities. *TrendWatch*. Retrieved from https://www.aha.org/system/files/media/file/2019/05/aha-trendwatch-behavioral-health-2019.pdf

Annamalai, A., Kosir, U., & Tek, C. (2017). Prevalence of obesity and diabetes in patients with schizophrenia. *World Journal of Diabetes*, *8*(8), 390-396.

Baller, J., McGinty, E., Azrin, S., Juliano-Bult, D., & Daumit, G. (2015). Screening for cardiovascular risk factors in adults with serious mental illness: A review of the evidence. *BMC Psychiatry*, *15*(55), 1-13.

Bäuml, J., Pitschel-Walz, G., Volz, A., Lüscher, S., Rentrop, M., Kissling, W., & Jahn, T. (2016). Psychoeducation improves compliance and outcome in schizophrenia without an increase of adverse side effects: A 7-year follow-up of the Munich PIP-study. *Schizophrenia Bulletin*, *42*(1), 62-70.

Bersani, F., Biondi, M., Coviello, M., Fagiolini, A., Majorana, M., Minichino, A., Coccanari Foreni, M. (2017). Psychoeducational intervention focused on healthy living improves psychopathological severity and lifestyle quality in psychiatric patients: preliminary findings from a controlled study. *Journal of Mental Health, 26*(3), 271–275.

Curtis, J., Watkins, A., Rosenbaum, S., Teasdale, S., Kalucy, M., Samaras, K., & Ward, P. (2016). *Early Intervention in Psychiatry, 10*(3), 267-276.

Dayabandara, M., Hanwella, R., Ratnatunga, S., Seneviratne, S., Suraweera, C., & de Silva, V. A. (2017). Antipsychotic-associated weight gain: management strategies and impact on treatment adherence. *Neuropsychiatric Disease and Treatment*, *13*, 2231–2241.

Erickson, Z., Kwan, C., Gelberg, H., Arnold, I., Chamberlin, V., Rosen, J., Shah, C., Nguyen, C., Hellemann, G., Aragaki, D., Kunkel, C., Lewis, M., Sachinvala, N., Sonza, P., Pierre, J., & Ames, D. (2017). A randomized, controlled multisite study of behavioral interventions for veterans with mental illness and antipsychotic medication-associated obesity. *Journal of General Internal Medicine, 32*(1), 32-39.

Green, C., Janoff, S., Yarborough, B., & Yarborough, M. (2014). A 12-week weight reduction intervention for overweight individuals taking antipsychotic medications. *Community Mental Health Journal*, *50*(8), 974–980.

Jean-Baptiste, M., Tek, C., Liskov., E., Chakunta, U., Nicholls, S., Hassan, A.,…Brownell, K. (2007). A pilot study of a weight management program with food provision in schizophrenia. *Schizophrenia Research, 96*(1-3), 198-205.

Kreyenbuhl, J., Dixon, L., Brown, C., Medoff, D., Klingaman, E., Fang, L., Walsh, M. (2017). A

randomized controlled trial of a patient-centered approach to improve screening for the metabolic side effects of antipsychotic medications. *Community Mental Health Journal*, *53*(2), 163–175.

Larrabee, J. H. (2009). Nurse to nurse: Evidence-based practice. New York: McGraw-Hill.

Lewin, K., & Gold, M. (1999). The dynamics of group action. In M. Gold, M. Gold (Eds.), *The complete social scientist: A Kurt Lewin reader* (pp. 285-291). Washington, DC, US: American Psychological Association.

Manchester, J., Gray-Miceli, D., Metcalf, J., Paolini, C., Napier, A., Coogle, C., & Owens, M. (2014). Facilitating Lewin's change model with collaborative evaluation in promoting evidence based practices of health professionals. *Evaluation and Program Planning, 47*, 82-90.

McEwen, M., & Wills, E.M. (2014). *Theoretical basis for nursing* (4th ed.). Philadelphia, PA: Wolters Kluwer Health.

Melnyk, B. M. & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & healthcare* 3rd (ed.). Philadelphia, PA: Wolters Kluwer Health.

National Institute for Health and Clinical Excellence (2014). Psychosis and schizophrenia in adults: Treatment and management. *NICE Clinical Guideline 178*. London. Retrieved from https://www.nice.org.uk/guidance/cg178/evidence/full-guideline-490503565

Owusu-Ansah, A., Berko Panyin, A., Obirikorang, C., Agyare, C., Acheampong, E., Kwofie, S., Nsenbah Batu, E. (2018). Metabolic syndrome among schizophrenic patients: A comparative cross-sectional study in the middle belt of Ghana. *Schizophrenia Research & Treatment*, *2018*, 1–9.

Penninx, B., & Lange, S. (2018). Metabolic syndrome in psychiatric patients: overview,

mechanisms, and implications. *Dialogues in clinical neuroscience, 20*(1), 63-73.

Pringsheim, T., Kelly, M., Urness, D., Teehan, M., Ismail, Z., & Gardner, D. (2017). Physical health and drug safety in individuals with schizophrenia. *The Canadian Journal of Psychiatry, 62*(9), 673-683.

Sarath, I., Lokesh, K., Pramod, M., & Pavan M. (2014). Attitudes toward medication and reasons for non-compliance in patients with schizophrenia. *Indian Journal of Psychological Medicine, 36*(3), 294-298.

Walker S., & Hill-Polerecky D. (1996). Psychometric evaluation of the health promoting lifestyle profile II. *Unpublished manuscript,* University of Nebraska Medical Center.

Walker, S., Sechrist, K., & Pender, N. (1987). The Health-Promoting Lifestyle Profile: Development and psychometric characteristics. *Nursing Research, 32*(2), 76-81.

White, A. (2014). Implementing change in the perioperative setting. *AORN Journal*, *99*(2), C7-8.

Appendix A

Eastern Kentucky University Institutional Review Board Approval

Consent to Participate in a Research Study

Minimizing Antipsychotic Medication Side Effects in Adults Diagnosed with Mental Illness through Psychoeducation: An Evidence Based Approach

EKU

Institutional Review Board
Protocol Number
2977

Approval Valid
2/6/20-1/13/21

Key Information

You are being invited to participate in a research study. This document includes important information you should know about the study. Before providing your consent to participate, please read this entire document and ask any questions you have.

Do I have to participate?

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering. If you take part in this study, you will be one of selected participants involved in the study.

What is the purpose of the study?

The purpose of this project is to shed more light on the effectiveness of a psychoeducational intervention *Simplified Intervention to Modify Physical activity, Lifestyle, and Eating behavior* (SIMPLE) in enhancing health promoting behaviors among persons prescribed antipsychotic medications. The effectiveness of this psychoeducation tool will be measured using the *Health-Promoting Lifestyle Profile II* questionnaire (HPLP II). By doing this study, we hope to learn that psychoeducational intervention results in decreased antipsychotic medication induced metabolic side effects among patients prescribed antipsychotic medication through lifestyle changes.

Where is the study going to take place and how long will it last?

The research procedures will be conducted at an outpatient behavioral health clinic (Recovery Psychiatric Services) located in Las Vegas, Nevada. You will need to be present at Recovery Psychiatric Services 4 times during the study. Each of those visits will last about 30-45 minutes. The total amount of time you will be asked to volunteer for this study is 3-4 hours over the next 4 weeks.

What will I be asked to do?

If you decide to take part in this project:

1. You will need to attend four sessions (visits) lasting 30-45 minutes in a 4-week period
2. Your medical records would be accessed to obtain information on your mental illness and prescribed antipsychotic medications.
3. During your first meeting with the PI, you will be asked to provide information about your gender and age. The PI will obtain information on currently prescribed antipsychotic medications, current physical activity, and daily intake of fruit and vegetables. At the end of the four-week session, information would be collected on participants' physical activity and daily fruit and vegetable intake. The PI will also ask

you to complete a 52 item questionnaire on your health promoting lifestyle that will take about 20 to 30 minutes during the first and the last session.

4. During the 4-week session, the PI will facilitate educational intervention groups using SIMPLE handouts as well as provide you with supported follow-up with the aim of establishing your goals for diet and exercise. Additionally, the intervention is aimed at assisting you to improve your physical health and reduce your weight. The sessions in the intervention will stress the importance of improving fruit and vegetable consumption and physical activity. The sessions have been designed to motivate and build your skills using simple tools that will assist you to achieve your nutritional and physical activity goals.

5. Participants' personal information will be kept private; the PI will not take participants' information outside of the clinic in any way that connects the information to you. The data collection documents will be coded to keep them together during the project. At the completion of the project the code list will be destroyed. Participants' protected health information (PHI) will not be taken off site. A hard copy of signed documents will be kept in a locked cabinet at the clinic site as well as transferred over to Eastern Kentucky University while electronic data will be securely stored in SharePoint.

Are there reasons why I should not take part in this study?
You will be excluded from this study if you are under the age of 18, pregnant, have impaired decision-making capacity or not compliant with prescribed antipsychotic medication (s).

What are the possible risks and discomforts?
To the best of our knowledge, this study does not have a greater risk of harm than you would experience in everyday life. You may however experience a previously unknown risk or side effect.

What are the benefits of taking part in this study?
There is no guarantee that you will get any benefit from taking part in this study. Some people however have reported weight loss and decreased metabolic side effects when utilizing psychoeducation. We cannot and do not guarantee that you will receive any benefits from this study.

If I don't take part in this study, are there other choices?
If you decide to take part in the study, it should be because you freely want to volunteer without any feeling of coercion. You will not lose any benefits or rights which you would normally have if you choose not to volunteer. You can stop participating in the study at any time and still keep the benefits and rights you had before volunteering.

Other Important Details

Who is doing the study?
The person in charge of this study is Sarah Yao at Eastern Kentucky University. She is being guided in this project by Dr. Gina Purdue and Dr. Nancy Owens. There may be other people on the research team assisting at different times during the study.

What will it cost me to participate?
There are no costs associated with taking part in this study.

Will I receive any payment or rewards for taking part in the study?
You will not receive any payment or reward for taking part in this study.

Who will see the information I give?
Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will be kept separate from the information you give, and will be stored in different places under lock and key.

There are some circumstances under which we may have to show your information with other people. For instance, the law may require us to show your information to a court or inform authorities if we believe you have abused a child or are a danger to yourself or someone else. Also, we may be required to show information that identifies you to people who need to be sure we have conducted the research correctly; these would be people from organizations such as Eastern Kentucky University or the Southern Nevada Mental Health Services.

Can my taking part in the study end early?
If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate. You will not be treated differently if you decide to stop participating in the study.

The individuals conducting the study may need to end your participation in the study. They may do this if you are not able to follow the directions they give you, if they find that being in the study puts you at more risk than benefit to you, or if the agency funding the study decides to stop the study early for a variety of scientific reasons.

What happens if I get hurt or sick during the study?
If you believe you are hurt or if you get sick because of something that is done during the study, you should call Sarah Yao at 702-573-0721 or 859-622-3636 immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. That cost will be your responsibility. Also, Eastern Kentucky University will not pay for any wages you may lose if you are harmed by this study.

Usually, medical costs that result from research-related harm cannot be included as regular medical costs. Therefore, the costs related to your care and treatment because of something that is done during the study will be your responsibility. You should ask your health insurance provider if you have any questions about your insurer's willingness to pay under these circumstances.

What do I need to know about the use of the biospecimens I provide?
Before you decide whether to accept this invitation to take part in the study, please ask any questions that needs clarification. Later, if you have questions about the study, you can contact the investigator, Sarah Yao at 702-573-0721. If you have any questions about your rights as a research volunteer, contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636. We will give you a copy of this consent form to take with you.

What else do I need to know?
No companies or institutions are involved in this study through funding.

You will be told if any new information is learned which may affect your condition or influence your willingness to continue taking part in this study.

Consent

Before you decide whether to accept this invitation to take part in the study, please ask any questions that come to mind now. Later, if you have questions about the study, you can contact Sarah Yao at sarah_yao@mymail.eku.edu or (702) 573-0721. If you have any questions about your rights as a research volunteer, you can contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

If you would like to participate, please read the statement below, sign, and print your name.

I am at least 18 years of age, have thoroughly read this document, understand its contents, have been given an opportunity to have my questions answered, and voluntarily agree to participate in this research study.

Signature of person agreeing to take part in the study Date

Printed name of person taking part in the study

Name of person providing information to subject

Appendix B

Recovery Psychiatric Services Approval

RECOVERY PSYCHIATRIC SERVICES, LLC

T: 702-823-3003
F: 702-478-8205
A: 4431 S. Eastern Ave, Ste 1
Las Vegas, NV 89119

June 14, 2019

RE: Sarah Yao, Nurse Practitioner, Doctoral Candidate

To Whom It May Concern,

This letter is to confirm that Recovery Psychiatric Services has given approval to Sarah Yao, a DNP student at Eastern Kentucky University, to conduct her capstone project with patients at Recovery Psychiatric Services.

This project has been reviewed and approved by the Director and Administration of Recovery Psychiatric Services with an understanding that participation of prospective participants is voluntary. Implementation of the project would commence in Fall 2019 and our agency would defer to EKU as the IRB on record.

We look forward to working with Ms. Yao on her project. If you have any questions, do not hesitate to contact me.

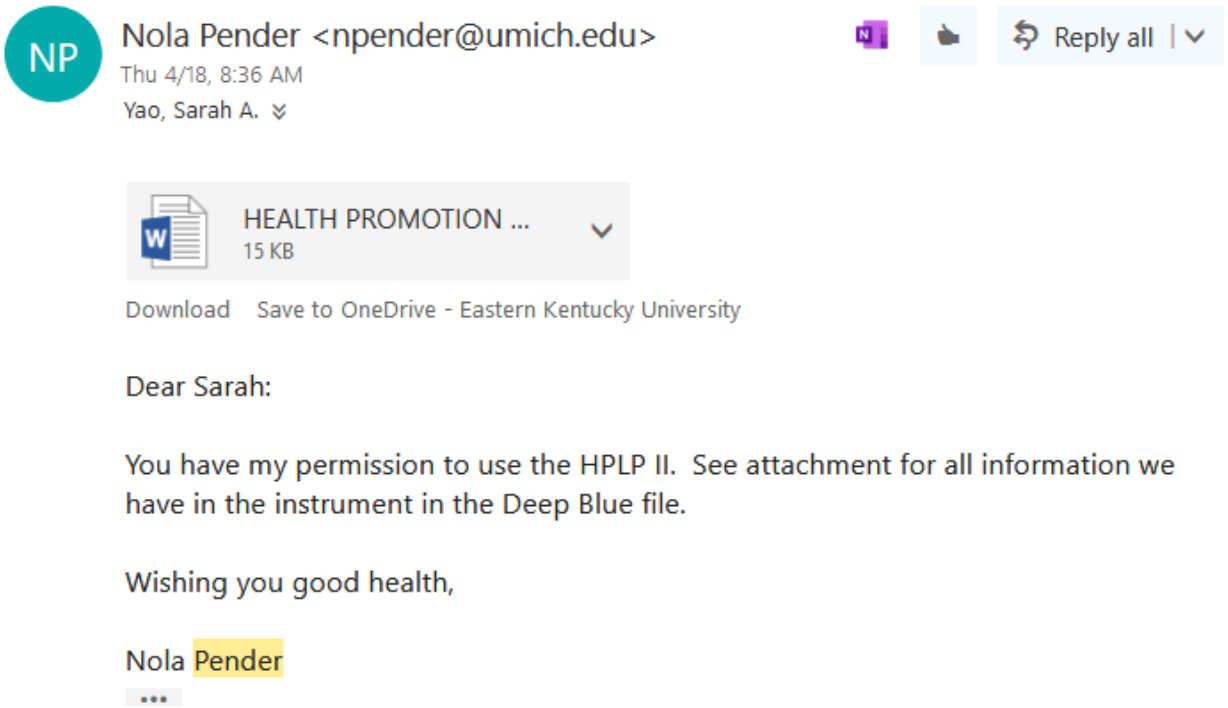
Best Regards,

6/14/19

Dr Fidelis Moseri, DNP
Clinical Director

Appendix C

Permission to Use Instruments



NP

Nola Pender <npender@umich.edu>

Thu 4/18, 8:36 AM

Yao, Sarah A.

Reply all

HEALTH PROMOTION ...

15 KB

Download Save to OneDrive - Eastern Kentucky University

Dear Sarah:

You have my permission to use the HPLP II. See attachment for all information we have in the instrument in the Deep Blue file.

Wishing you good health,

Nola Pender

Appendix D

Health-Promoting Lifestyle Profile II

LIFESTYLE PROFILE II

DIRECTIONS: This questionnaire contains statements about your *present* way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never, **S** for sometimes, **O** for often, or **R** for routinely

		NEVER	SOMETIMES	OFTEN	ROUTINELY
1.	Discuss my problems and concerns with people close to me.	N	S	O	R
2.	Choose a diet low in fat, saturated fat, and cholesterol.	N	S	O	R
3.	Report any unusual signs or symptoms to a physician or other health professional.	N	S	O	R
4.	Follow a planned exercise program.	N	S	O	R
5.	Get enough sleep.	N	S	O	R
6.	Feel I am growing and changing in positive ways.	N	S	O	R
7.	Praise other people easily for their achievements.	N	S	O	R
8.	Limit use of sugars and food containing sugar (sweets).	N	S	O	R
9.	Read or watch TV programs about improving health.	N	S	O	R
10.	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).	N	S	O	R
11.	Take some time for relaxation each day.	N	S	O	R
12.	Believe that my life has purpose.	N	S	O	R
13.	Maintain meaningful and fulfilling relationships with others.	N	S	O	R
14.	Eat 6-11 servings of bread, cereal, rice and pasta each day.	N	S	O	R
15.	Question health professionals in order to understand their instructions.	N	S	O	R
16.	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).	N	S	O	R
17.	Accept those things in my life which I can not change.	N	S	O	R
18.	Look forward to the future.	N	S	O	R
19.	Spend time with close friends.	N	S	O	R
20.	Eat 2-4 servings of fruit each day.	N	S	O	R
21.	Get a second opinion when I question my health care provider's advice.	N	S	O	R
22.	Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).	N	S	O	R
23.	Concentrate on pleasant thoughts at bedtime.	N	S	O	R
24.	Feel content and at peace with myself.	N	S	O	R
25.	Find it easy to show concern, love and warmth to others.	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
26. Eat 3-5 servings of vegetables each day.	N	S	O	R
27. Discuss my health concerns with health professionals.	N	S	O	R
28. Do stretching exercises at least 3 times per week.	N	S	O	R
29. Use specific methods to control my stress.	N	S	O	R
30. Work toward long-term goals in my life.	N	S	O	R
31. Touch and am touched by people I care about.	N	S	O	R
32. Eat 2-3 servings of milk, yogurt or cheese each day.	N	S	O	R
33. Inspect my body at least monthly for physical changes/danger signs.	N	S	O	R
34. Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	N	S	O	R
35. Balance time between work and play.	N	S	O	R
36. Find each day interesting and challenging.	N	S	O	R
37. Find ways to meet my needs for intimacy.	N	S	O	R
38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	N	S	O	R
39. Ask for information from health professionals about how to take good care of myself.	N	S	O	R
40. Check my pulse rate when exercising.	N	S	O	R
41. Practice relaxation or meditation for 15-20 minutes daily.	N	S	O	R
42. Am aware of what is important to me in life.	N	S	O	R
43. Get support from a network of caring people.	N	S	O	R
44. Read labels to identify nutrients, fats, and sodium content in packaged food.	N	S	O	R
45. Attend educational programs on personal health care.	N	S	O	R
46. Reach my target heart rate when exercising.	N	S	O	R
47. Pace myself to prevent tiredness.	N	S	O	R
48. Feel connected with some force greater than myself.	N	S	O	R
49. Settle conflicts with others through discussion and compromise.	N	S	O	R
50. Eat breakfast.	N	S	O	R
51. Seek guidance or counseling when necessary.	N	S	O	R
52. Expose myself to new experiences and challenges.	N	S	O	R

Appendix E

SIMPLE Program Copyright Permission

TC

Tek, Cenk <cenk.tek@yale.edu>

Mon 4/15, 2:55 AM

Dear Sarah,

I put the program in public domain so that everybody can use. Nothing makes me happier if a colleague use it. I do have Spanish version if you need.

Best

Cenk

--

Cenk Tek, M.D.

Associate Professor of Psychiatry

Yale University Department of Psychiatry

Director, Psychosis Program

Connecticut Mental Health Center

Rm 267E

34 Park Street

New Haven, CT 06519

Phone: 203 974-7484

Fax: 203 974-7830

E-mail: cenk.tek@yale.edu

Appendix F

Permission to Make Changes to SIMPLE Program

On Sep 22, 2019, at 3:46 PM, Yao, Sarah A. <sarah_yao@mymail.eku.edu> wrote:

Dear Dr. Tek,

I contacted you earlier this year regarding permission to use SIMPLE for psychoeducation among participants in my DNP project. Due to time constraints, I will not be able to complete my project in 16 weeks outlined in handbook but I intend to summarize the information in the handbook within a 4-week period. I will provide a general overview of antipsychotic medications and its metabolic and cardiovascular risks in week 1, discuss dietary changes and recommendations in week 2, physical activity in week 3 and tips to control hunger and cravings in week 4.

I want to seek your permission prior to making any changes to the 16-week duration required in completing the psychoeducational session. I will be using the content of the SIMPLE handbook without any alteration to the information but wi complete it within a shorter time-frame.

Thank you,

To: Yao, Sarah A. <sarah_yao@mymail.eku.edu>
Subject: Re: Permission to use S.I.M.P.L.E as a psychoeducational tool

Hi Sarah,
We did try to deliver it in 8 weeks. The result are in this paper (https://www.ncbi.nlm.nih.gov/pubmed/23296213), a bit more modest. And of course you can do it.
Best

--

Cenk Tek, M.D.
Associate Professor of Psychiatry
Yale University Department of Psychiatry
Director, Psychosis Program
Connecticut Mental Health Center
Rm 267E
34 Park Street
New Haven, CT 06519
Phone: 203 974-7484
Fax: 203 974-7830
E-mail: cenk.tek@yale.edu

Appendix G

Recruitment Flyer

JANUARY 2020

EVIDENCED-BASED PRACTICE PROJECT

TOPIC: MINIMIZING ANTIPSYCHOTIC MEDICATION SIDE EFFECTS IN ADULTS DIAGNOSED WITH MENTAL ILLNESS THROUGH PSYCHOEDUCATION

WEEKLY LESSON PLAN:

- OVERVIEW OF BENEFITS OF ANTIPSYCHOTIC MEDICATION
- METABOLIC AND CARDIOVASCULAR SIDE EFFECTS OF ANTIPSYCHOTICS
- MAKING HEALTHY DIETARY CHANGES
- WAYS TO INCREASE PHYSICAL ACTIVITY

- TARGET POPULATION: ADULTS DIAGNOSED WITH MENTAL ILLNESS AND PRESCRIBED AT LEAST ONE ANTIPSYCHOTIC MEDICATION
- PROJECT TIMEFRAME: 30-45 MINUTES (ONE DAY EVERY WEEK FOR 4 WEEKS)

LOCATION: RECOVERY PSYCHIATRIC SERVICES CONFERENCE ROOM

CONTACT: SARAH YAO, APRN TEL: (702) 573-0721 REFRESHMENTS AVAILABLE

Appendix H

Weekly Agenda for Psychoeducational Sessions

Weekly Agenda	Topics
Week 1	Benefits of antipsychotic medication Overview of metabolic and cardiovascular side effects of antipsychotic medications
Week 2	**Dietary Changes** Understanding how to lose weight through healthy dietary choices Tips for reading the food label Budget friendly shopping tips Meal planning Portion control Food Journal
Week 3	**Physical Activity** Exercise and weight loss Tips to increase physical activity and have fun
Week 4	Tips to control hunger and deal with cravings Support system Summary Evaluation of psychoeducational sessions

Appendix I

Data Collection Form

Participant ID #:	List of antipsychotic medications	Average physical activity (Before psychoeducation)	Average daily intake of fruit and vegetables (Before psychoeducation)	Average physical activity (After psychoeducation)	Average daily intake of fruit and vegetables (After psychoeducation)
Age:					
Gender:					

Appendix J

Lifestyle Changes Log

Participant study #:	**Week #:**	**Fruit Intake # of cups:**	**Vegetable Intake # of cups:**	**Physical Activity # of minutes:**
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

Appendix K

Program Evaluation Form

I appreciate your help in evaluating this psychoeducational intervention. Please indicate your rating of the group sessions in the categories below by circling the appropriate number, using a scale of 1 (low) through 5 (high).

Participant Study #:

OBJECTIVES

The group sessions met the following objectives:

1. Provided an overview of the benefits of antipsychotic medications. 1 2 3 4 5

2. Explained the metabolic and cardiovascular side effects of antipsychotic medication. 1 2 3 4 5

3. Provided tips on healthy dietary choices 1 2 3 4 5

4. Provided ways on how to increase physical activity 1 2 3 4 5

The group sessions have resulted in healthy lifestyle changes through diet and exercise. ____ Substantially ____ Somewhat ____ Not at all

ADDITIONAL COMMENTS